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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/685,361	10/10/2000	Andreas Rusch	GR 98 P 1507	4001

7590 05/08/2002

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EXAMINER

GURLEY, LYNNE ANN

ART UNIT

PAPER NUMBER

2812

DATE MAILED: 05/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/685,361

Applicant(s)
Rusch et al.

Examiner
Lynne Gurley

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2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 20, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above, claim(s) 1 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Oct 10, 2000 is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☒ All b) ☐ Some* c) ☐ None of:

- ☒ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other:

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DETAILED ACTION

Election/Restriction

1. Applicant's election without traverse of claim 2 in Paper No. 8 is acknowledged.
2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the matrix of contact holes down to the semiconductor substrate in the insulating layer in accordance with respective semiconductor elements; each of the implantations (first and second) and the corresponding masks used for the implants; the undoped surface of the substrate which is left in the third group of contact holes; the

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contact plugs; and the further provided contact region outside the bit definition region must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

5. The drawings are objected to under 37 CFR 1.83(a) because they fail to show (see the preceding paragraph 4) as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Correction is required.

6. The drawings are objected to under 37 CFR 1.83(b) because they are incomplete. 37 CFR 1.83(b) reads as follows:

When the invention consists of an improvement on an old machine the drawing must when possible exhibit, in one or more views, the improved portion itself, disconnected from the old structure, and also in another view, so much only of the old structure as will suffice to show the connection of the invention therewith.

Correction is required.

Specification

7. The abstract of the disclosure is objected to because it does not reflect that a semiconductor fabrication method is described and also, in the first sentence the phrase "formed of a semiconductor substrate" should be "formed on a semiconductor substrate". Correction is required. See MPEP § 608.01(b).

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8. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The step of "leaving the surface region..." in the claim is indefinite and unclear in that it does not accurately describe that this region is left undoped, as explained in the specification.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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12. Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Sato (US 5,960,283, dated 9/28/99).

Sato shows the method as claimed in figures 3-9 and corresponding text, as providing a semiconductor substrate 1,2 having a first conductivity type (2, n); providing an insulating layer 7,9 on the semiconductor substrate; forming a matrix of contact holes (Fig. 3D) down to the semiconductor substrate in the insulating layer in accordance with respective semiconductor elements. The first implantation with a dopant of the first conductivity type is shown in Fig. 3E (col. 8, lines 57-68; col. 9, lines 1-5). The second implantation with a dopant of the second conductivity type is shown in Fig. 3F (col. 9, lines 6-24). The third group of contact holes which are left in a substrate doping are shown in Fig. 3F as the masked group of contact holes. The contact plugs are shown in Figs. 5B, 6 and 9. The further contact region located outside the bit definition region is shown in Fig. 9.

13. Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by Hikawa et al. (US 5,753,553, dated 5/19/98).

Hikawa shows the method as claimed in figures 17-24 and corresponding text, as providing a semiconductor substrate 21 having a first conductivity type (p-type); providing an insulating layer 32 on the semiconductor substrate; forming a matrix of contact holes (Fig. 17) down to the semiconductor substrate in the insulating layer in accordance with respective semiconductor elements. The first implantation with a dopant of the first conductivity type is shown in Fig. 22. The second implantation with a dopant of the second conductivity type is

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shown in Figs. 17-19. The third group of contact holes which are left in a substrate doping are shown in Figs 17-19 as the masked group of contact holes. The contact plugs and the further contact region located outside the bit definition region, although not explicitly shown, are considered to be inherently formed to interconnect the devices.


Prior Art Of Record

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the PTO Form 892 with similar structures of mask ROMs. All pertinent to applicant's invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne A. Gurley whose telephone number is (703) 305-3474. The examiner can normally be reached on Monday-Friday from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John F. Niebling, can be reached on (703) 308-3325. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


LYNNE GURLEY
PATENT EXAMINER
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lag
April 25, 2002